

U.S. Patent Application Serial No. 10/697,944
Amendment filed October 18, 2007
Reply to OA dated May 18, 2007

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A semiconductor device comprising:

a first insulating film formed over a semiconductor substrate;

a capacitor constructed by forming a lower electrode, a dielectric film, and an upper electrode sequentially ~~[[on]]~~over the first insulating film;

a first capacitor protection insulating film covering the dielectric film and the upper electrode; ~~a second capacitor protection insulating film formed on the first capacitor protection insulating film;~~

a second capacitor protection insulating film formed ~~[[on]]~~over the first capacitor protection insulating film;

a second insulating film formed ~~[[on]]~~over the ~~first~~ second capacitor protection insulating film; and

a first-layer metal wiring formed ~~[[on]]~~over the second insulating film and connected electrically to the upper electrode ~~by a plug via a contact hole~~ extending through a contact hole in the second insulating film, the second capacitor protection insulating film and the first capacitor protection insulating film,

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wherein an amount of carbon contained in the second capacitor protection insulating film is larger than an amount of carbon contained in the second insulating film.

Claim 2 (original): A semiconductor device according to claim 1, wherein the second capacitor protection insulating film is a silicon oxide film.

Claim 3 (original): A semiconductor device according to claim 1, wherein the second insulating film is a silicon oxide film.

Claim 4 (original): A semiconductor device according to claim 1, wherein the first capacitor protection insulating film is made of any one of alumina, PLZT, PZT, titanium oxide, aluminum nitride, silicon nitride, and silicon nitride oxide.

Claim 5 (original): A semiconductor device according to claim 1, wherein the dielectric film is made of any one of PZT material and bismuth material.

Claims 6 - 20 (cancelled)

Claim 21 (currently amended): A semiconductor device comprising:

a first insulating film formed over a semiconductor substrate;

a capacitor constructed by forming a lower electrode, a dielectric film, and an upper electrode sequentially over the first insulating film;

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a first capacitor protection insulating film covering the upper surface of the upper electrode;

a second capacitor protection insulating film formed ~~[[on]]~~over the first capacitor protection insulating film; and

a second insulating film formed, in its entirety, ~~directly~~ on the second capacitor protection insulating film.

Claim 22 (currently amended): A semiconductor device comprising:

a first insulating film formed over a semiconductor substrate;

a capacitor constructed by forming a lower electrode, a dielectric film, and an upper electrode sequentially ~~[[on]]~~over the first insulating film;

a first capacitor protection insulating film covering the dielectric film and the upper electrode;

a second capacitor protection insulating film formed ~~[[on]]~~over the first capacitor protection insulating film;

~~a second capacitor protection insulating film formed on the first capacitor protection insulating film;~~

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a second insulating film formed ~~[[on]]over~~ the ~~first~~ second capacitor protection insulating film; and

a first-layer metal wiring formed ~~[[on]]over~~ the second insulating film and connected electrically to the upper electrode ~~by a plug~~ via a contact hole extending through ~~a contact hole~~ in the second insulating film.

Claim 23 (currently amended): A semiconductor device according to claim 22, wherein the first-layer metal wiring is formed ~~[[on]]over~~ the second insulating film and connected electrically to the upper electrode ~~by a plug~~ via a contact hole extending through ~~a contact hole~~ in the second insulating film, the second capacitor protection insulating film and the first capacitor protection insulating film.